Amendments to the Claims

This listing of claim replaces all prior listings of claims in this application.

Claims:

Claims 1 – 3 (cancelled)

4.   (Currently Amended) A~~The~~ method ~~of claim 1~~for testing a magnetoresistive solid-state storage device, the method comprising:

accessing a set of magnetoresistive storage cells, the set being arranged in use to store at least one block of ECC encoded data;

determining whether the accessed set of storage cells is suitable for, in use, storing at least one block of ECC encoded data; and

determining, from accessing the set of storage cells, one or more failed cells, determining the position of the identified failed cells, and from this determining one or more symbols of ECC encoded data which, in use, would be affected by failed cells in those positions.

5.   (Original)   The method of claim 4, comprising determining whether there would be more failed symbols in a block of ECC encoded data than could be reliably corrected by, in use, error correction decoding the block of ECC encoded data.

6.   (Currently Amended) A~~The~~ method ~~of claim 1~~for testing a magnetoresistive solid-state storage device, the method comprising:

accessing a set of magnetoresistive storage cells, the set being arranged in use to store at least one block of ECC encoded data;

determining whether the accessed set of storage cells is suitable for, in use, storing at least one block of ECC encoded data;

obtaining a parametric value for each of the set of storage cells;

comparing each parametric value against a range or ranges; and

identifying failed cell or cells, amongst the set of storage cells, as being affected by a physical failure, where the parametric value falls into one or more failure ranges.

7.   (Original)   The method of claim 6, comprising identifying storage cells for which a logical bit value is derivable.

8.   (Original)   The method of claim 6, comprising forming a failure count based on the identified failed cells, and comparing the failure count against a threshold value.

9.   (Original)   The method of claim 8, comprising using the identified failed cells to determine failed symbols, and wherein the failure count is based on the failed symbols.

10.   (Original)   The method of claim 9, wherein the threshold value represents a number of failed symbols equal to or less than a total number of failed symbols which, in

use, could be reliably corrected by error correction decoding a block of ECC encoded

data to be stored in the accessed set of storage cells.

11.   (Original)   The method of claim 10, wherein the threshold value is set to be in

the range of about 50% to about 95% of the maximum number of failed symbols which

could be reliably corrected by error correction decoding the block of ECC encoded data.

12.   (Currently Amended) A~~The~~ method ~~of claim 1~~for testing a magnetoresistive

solid-state storage device, the method comprising:

        accessing a set of magnetoresistive storage cells, the set being arranged in use to

store at least one block of ECC encoded data;

        determining whether the accessed set of storage cells is suitable for, in use, storing

at least one block of ECC encoded data;

        writing test data to the set of storage cells;

        reading the test data from the set of storage cells; and

        comparing the written test data to the read test data to identify a failed cell or cells

amongst the set of storage cells as being affected by a physical failure.

13.   (Original)   The method of claim 12, comprising forming a failure count based

on the identified failed cells, and comparing the failure count against a threshold value.

14. (Original) The method of claim 12, comprising using the identified failed cells to determine failed symbols, and wherein the failure count is based on the failed symbols.

15. (Original) The method of claim 14, wherein the threshold value represents a number of failed symbols equal to or less than a total number of failed symbols which, in use, could be reliably corrected by error correction decoding a block of ECC encoded data to be stored in the accessed set of storage cells.

16. (Original) The method of claim 15, wherein the threshold value is set to be in the range of about 50% to about 95% of the maximum number of failed symbols which could be corrected by error correction decoding the block of ECC encoded data.

17. (Original) A method for controlling a magnetoresistive solid-state storage device, comprising the steps of:

accessing a set of magnetoresistive storage cells, the set being arranged in use to store at least one block of ECC encoded data;

comparing parametric values obtained by accessing the set of storage cells against one or more ranges;

identifying failed cells amongst the accessed set of storage cells;

forming a failure count based on the identified failed cells;

comparing the failure count against a threshold value; and

determining whether the accessed set of storage cells is suitable for, in use, storing at least one block of ECC encoded data.

18.   (Original)   A method for controlling a magneto-resistive solid-state storage device, comprising the steps of:

accessing a set of magnetoresistive storage cells, the set being arranged in use to store at least one block of ECC encoded data;

writing test data to the accessed set of storage cells;

reading test data from the accessed set of storage cells;

comparing the written test data against the read test data, to identify failed cells amongst the accessed set of storage cells;

forming a failure count based on the identified failed cells;

comparing the failure count against a threshold value; and

determining whether the accessed set of storage cells is suitable for, in use, storing at least one block of ECC encoded data.

19.   (Original)   A method for controlling a magnetoresistive solid-state storage device, comprising the steps of:

accessing a set of magnetoresistive storage cells, the set being arranged in use to store at least one block of ECC encoded data;

comparing parametric values obtained by accessing the set of storage cells against one or more ranges and thereby identifying failed cells amongst the accessed set of storage cells;

performing write-read-compare on test data in the accessed set of storage cells, to thereby identify failed cells amongst the accessed set of storage cells;

forming a failure count based on the identified failed cells;

comparing the failure count against a threshold value; and

determining whether the accessed set of storage cells is suitable for, in use, storing at least one block of ECC encoded data.

Claims 20 - 21   (cancelled)